

WATERSHED CHARACTERISTICS

Resources in the Parker River/Essex Bay ACEC are connected by river networks in the Parker, Ipswich, and North Coastal Watersheds (Figure 3). The Parker River Watershed encompasses 83 square miles and is bordered by the Merrimack River Watershed to the north and the Ipswich River Watershed to the south. The Parker River begins as a series of headwater ponds that are typical alewife spawning grounds. The fresh water portion of the river is about 8 miles while the remainder of the river is tidal and surrounded by extensive ACEC salt marsh (Stevenson 1998). After traveling 21.3 miles, the river empties into Plum Island Sound at the Parker River Wildlife Refuge. Water flow over the river's six dams is reduced to a trickle during the summer and may cease completely in certain segments of the river in years of low precipitation. Communities in the Parker River Watershed are mostly rural in character with low density housing and many farms in the upper watershed. Most industrial activity is clustered along the Little River in Newbury, which flows into the Parker River. However, land use is changing as the population in the watershed increases each year. With increased urban and suburban development comes greater concern for water quality problems and loss of open space (EOEA 1999b).



Figure 3. Parker River/Essex Bay ACEC watersheds

The Ipswich River Watershed encompasses 155 square miles. The Ipswich River begins in Wilmington and flows northeasterly into Ipswich and Plum Island Sound. Four functioning dams are located in Reading, Middleton, and Ipswich with remnants of other smaller dams found in the river and its tributaries. Along its course, the river and tributaries flow through wetlands that help maintain good water quality. These wetlands and the watershed's groundwater provide much of the river's flow during drier times of the year. Most of the watershed is forested with residential, industrial, and commercial development being the other types of land use. Water efficiency and conservation is a great concern in the region since portions of the river run dry in the summer and several communities rely on the river to meet their water supply needs. Shellfish and anadromous fish runs in the tidal portions of the river also rely on adequate water supply and quality. More efficient use of water and improved water conservation practices would greatly benefit the river and its watershed (EOEA 1999a).

The 168 square-mile North Coastal Watershed has an estimated population of 500,000 within portions of 27 communities. Many of the watershed's rural communities have retained their scenic and environmental character but are increasingly faced with the threat of suburban sprawl. The dominant resource industries in the upper North Shore ACEC communities of Essex and Gloucester include commercial fishing for finfish, lobsters, and shellfish harvesting. Historically, numerous shellfish beds in this region have been closed from pollution but recent years have seen an increase in restoration efforts (EOEA 1999c).